
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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CHROMIUM IN OCTOBER 1997

Chromite consumption decreased 9% in October 1997 compared with that of the previous month, according to the U.S. Geological Survey. Net production of chromium ferroalloys and metal in October 1997 decreased 11% compared with production data for September 1997, and consumption of chromium ferroalloys and metal in October 1997 increased slightly compared with revised consumption data in September 1997. Chromite stocks decreased 7% over the same period. At the October rate of consumption, chromium stocks represented 6 months of domestic supply. Chromium ferroalloys and metal

stocks decreased slightly compared with those of September 1997. At the October rate of consumption, chromium ferroalloys and metal stocks represent 0.8 months of domestic supply.

Included in this Mineral Industry Surveys are U.S. consumption and stocks of chromite; U.S. net production, net shipments, and stocks of chromium materials; U.S. Government inventory; U.S. consumption by end use and consumer stocks for chromium ferroalloys and metal for October 1997; and foreign trade for September 1997.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight unless otherwise noted)

	1996	1997				
	Jan.-Dec.	Aug.	Sept.	3rd quarter	Oct.	Jan. - Oct.
Production:						
Chromium ferroalloys and metal: 2/						
Net production:						
Gross weight	36,800	5,220	5,380	16,400	4,810	51,300
Chromium content	26,400	3,390	3,630	10,800	3,080	34,500
Net shipments	38,800	6,570	2,320	14,900	5,620	53,100
Stainless steel production 3/	1,920,000	(4/)	(4/)	476,000	NA	1,520,000 5/
Components of U.S. supply:						
Stainless steel scrap receipts	579,000	56,900	48,400 r/	166,000	62,200	596,000
Imports for consumption						
Chromite ore	250,000	74,100	967	79,000	NA	242,000 5/
Chromium ferroalloys 6/	420,000	33,600	56,000	127,000	NA	325,000 5/
Chromium metal 7/	8,730	902	726	2,450	NA	7,630 5/
Stainless steel	781,000	NA	NA	NA	NA	510,000 8/
Stainless steel scrap	50	NA	NA	NA	NA	NA
Distribution of U.S. supply:						
Consumption:						
Chromite ore	282,000	30,700	28,500	90,000	25,800	286,000
Chromium ferroalloys & metal	333,000	29,200 r/	27,500 r/	89,300	27,800	300,000 5/
Exports:						
Chromite ore	69,400	1,070	1,370	3,190	NA	15,800 5/
Chromium ferroalloys	15,800	633	636	1,630	NA	7,160 5/
Chromium metal	1,330	317	210	801	NA	2,200 5/
Stainless steel	NA	NA	NA	NA	NA	NA
Stainless steel scrap	303	43	35	118	NA	286 5/
Stocks at end of period:						
Industry:						
Chromite ore:						
Chemical and metallurgical	165,000	163,000	171,000	171,000	158,000	XX
Refractory	7,890	8,550	8,500 r/	8,500	8,180	XX
Total	173,000	172,000	179,000 r/	179,000	166,000	XX
Chromium ferroalloys and metal:						
Producer	6,450	2,420	5,480	5,480	4,670	XX
Consumer	27,600	16,700 r/	16,000 r/	16,000	16,300	XX
Government stockpile:						
Chromite ore	1,190,000	1,220,000	1,120,000	1,120,000	1,090,000	XX
Chromium ferroalloys	1,050,000	1,020,000	1,020,000	1,020,000	1,020,000	XX
Chromium metal	7,720	7,720	7,720	7,720	7,720	XX

r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low- and high-carbon ferrochromium, chromium concentrates, ferrochromium, chromium metal, and other miscellaneous alloys.

3/ Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat resisting raw steel.

4/ Not reported monthly.

5/ Includes data for January through September; October data not available at time of publication.

6/ Includes high-, medium-, and low- ferrochromium and ferrochromium silicon.

7/ Includes waste and scrap and other.

8/ Includes data for January through June; July, August, September and October data not available at time of publication.

TABLE 2
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF
CHROMIUM FERROALLOYS AND METAL IN OCTOBER 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium			Other	Total	Jan. through Oct. total 2/
	Low-carbon	Medium-and high-carbon	Ferro-chromium silicon			
Steel:						
Carbon	301	343	9	5	658	7,250
Stainless and heat resisting	533	18,900	W	W	19,400	205,000
Full alloy	396	1,840	132	5	2,380	23,400
High-strength low-alloy and electric	174	W	646	W	820	8,420
Tool	W	293	W	--	293	3,450
Cast irons	W	49	1	W	50	846
Superalloys	234	439	--	292	965	9,550
Alloys:						
Welding materials 3/	--	W	--	W	W	30
Other alloys 4/	W	W	--	54	54	517
Miscellaneous and unspecified	200	425	2,450	58	3,130	41,300
Total: 5/ gross weight	1,840	22,300	3,240	414 6/	27,800	XX
Chromium content	1,260	13,600	1,170	318	16,300	XX
Stocks, Oct. 31, 1997	1,360	13,700	757	216 7/	16,000	XX
Jan. through Oct.: 2/						
Total	17,800	234,000	43,500	3,920 8/	XX	300,000
Chromium content	12,000	153,000	15,600	3,470	XX	184,000

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 308 tons of chromium metal.

7/ Includes 161 tons of chromium metal.

8/ Includes 3,090 tons of chromium metal.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
1996:								
October	220,000	645,000	322,000	732,000	283,000	52,700	2,670	5,050
November	220,000	645,000	322,000	725,000	283,000	52,700	2,670	5,050
December	220,000	645,000	322,000	718,000	283,000	52,700	2,670	5,050
1997:								
January	220,000	637,000	322,000	704,000	283,000	52,700	2,670	5,050
February	220,000	633,000	322,000	695,000	283,000	52,700	2,670	5,050
March	220,000	627,000	318,000	695,000	283,000	52,700	2,670	5,050
April	220,000	626,000	318,000	695,000	283,000	52,700	2,670	5,050
May	220,000	620,000	312,000	689,000	283,000	52,700	2,670	5,050
June	217,000	614,000	309,000	689,000	283,000	52,700	2,670	5,050
July	217,000	611,000	309,000	689,000	283,000	52,700	2,670	5,050
August	217,000	592,000	309,000	689,000	283,000	52,700	2,670	5,050
September	217,000	592,000	309,000	689,000	283,000	52,700	2,670	5,050
October	217,000	565,000	309,000	689,000	283,000	52,700	2,670	5,050

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

2/ Data are rounded to three significant digits.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
1996:							
September	614	\$132	955	554	\$912	137	\$772
October	1,310	152	1,100	680	956	97	1,010
November	1,390	486	1,450	852	1,350	93	825
December	1,060	214	6,200	3,750	3,140	89	1,090
Jan.-Dec.	69,400	11,100	15,800	9,520	14,000	1,330	12,800
1997:							
January	1,540	364	635	405	718	60	600
February	5,930	977	975	609	1,160	142	1,120
March	1,480	487	841	527	939	180	1,260
April	1,830	376	1,060	561	1,300	379	2,610
May	1,230	237	1,020	585	1,030	387	2,820
June	643	131	995	589	1,090	251	1,840
July	759	222	358	220	387	274	1,900
August	1,070	307	633	385	714	317	2,040
September	1,370	260	636	368	730	210	1,740
Total	15,800	3,360	7,160	4,250	8,070	2,200	15,900

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE,
FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	1996	1997			
	Jan.-Dec.	July	Aug.	Sept.	Jan.-Sept.
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	8,030	162	893	--	7,070
Chromic oxide content	2,650	19	107	--	2,080
More than 40% but less than 46% chromic oxide:					
Gross weight	25,400	--	5,250	--	19,500
Chromic oxide content	11,100	--	2,410	--	8,970
46% or more chromic oxide:					
Gross weight	217,000	3,800	68,000	967	215,000
Chromic oxide content	102,000	1,750	31,700	445	101,000
Total, all grades:					
Gross weight	250,000	3,960	74,100	967	242,000
Chromic oxide content	116,000	1,770	34,200	445	112,000
Ferrochromium:					
Low-carbon: 2/					
Gross weight	60,700	6,750	1,210	7,540	53,700
Chromium content	38,400	4,660	773	4,910	35,300
Medium-carbon: 3/					
Gross weight	36	22	1,300	--	1,550
Chromium content	23	12	671	--	831
High-carbon: 4/					
Gross weight	359,000	30,800	31,100	48,400	270,000
Chromium content	207,000	18,400	16,000	25,800	150,000
Total, all grades					
Gross weight	420,000	37,600	33,600	56,000	325,000
Chromium content	246,000	23,100	17,400	30,800	186,000
Chromium metal:					
Other than waste and scrap	8,670	824	902	726	7,630
Waste and scrap	67	(5/)	--	--	1
Total, all grades	8,730	824	902	726	7,630

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Ferrochromium containing not more than 3% carbon.

3/ Ferrochromium containing more than 3% carbon but not more than 4% carbon.

4/ Ferrochromium containing more than 4% carbon.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN SEPTEMBER 1997,
BY GRADE AND BY COUNTRY 1/

Country	September			January-September		
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value 2/ (thousands)
Not more than 40% chromic oxide:						
China	--	--	--	20	7	\$6
Japan	--	--	--	657	67	3
Philippines	--	--	--	5,780	1,910	1,050
South Africa	--	--	--	600	94	67
Venezuela	--	--	--	20	7	6
Total				7,070	2,080	1,140
More than 40% but less than 46% chromic oxide:						
South Africa	--	--	--	19,500	8,970	1,460
46% or more chromic oxide:						
Canada	--	--	--	13	6	5
Russia	--	--	--	22	261	117
South Africa	967	445	\$82	215,000	100,000	15,100
Total	967	445	82	215,000	101,000	15,300
Total, all grades:						
Canada	--	--	--	13	6	4
China	--	--	--	20	7	6
Japan	--	--	--	657	67	3
Philippines	--	--	--	5,780	1,910	1,050
Russia	--	--	--	22	261	117
South Africa	967	445	82	235,000	110,000	16,700
Venezuela	--	--	--	20	7	6
Total	967	445	82	242,000	112,000	17,900

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN SEPTEMBER 1997,
BY GRADE AND BY COUNTRY 1/

Country	September			January-September		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)
High-carbon ferrochromium: 3/						
Albania	--	--	--	2,510	1,520	\$1,350
Canada	8	5	\$19	28	14	21
China	1,250	773	801	15,100	9,500	9,590
Croatia	2,000	1,280	1,160	10,400	6,730	5,540
India	62	39	31	11,200	7,010	6,880
Kazakstan	--	--	--	268	197	456
Russia	19,100	9,120	11,000	59,000	26,500	39,400
South Africa	14,500	7,430	6,520	83,400	40,300	35,200
Turkey	11,500	7,210	7,190	52,700	35,700	32,900
United Kingdom	--	--	--	73	50	48
Zimbabwe	--	--	--	35,000	22,100	21,100
Total	48,400	25,800	26,700	270,000	150,000	152,000
Medium-carbon ferrochromium: 4/						
China	--	--	--	17	11	16
Russia	--	--	--	210	137	240
South Africa	--	--	--	1,300	671	568
Switzerland	--	--	--	(5/)	(5/)	(5/)
United Kingdom	--	--	--	22	13	9
Total	--	--	--	1,550	831	834
Low-carbon ferrochromium: 6/						
China	37	25	53	2,740	1,800	3,060
Germany	1,820	1,290	4,540	9,530	6,650	24,600
Japan	--	--	--	281	110	520
Kazakstan	--	--	--	1,300	845	1,560
Macedonia	--	--	--	21	15	15
Russia	3,250	2,220	3,820	27,500	18,700	34,700
South Africa	2,240	1,240	1,420	9,740	5,480	7,340
Sweden	--	--	--	20	14	34
Turkey	--	--	--	100	73	164
Zimbabwe	200	136	223	2,500	1,680	2,930
Total	7,540	4,910	10,100	53,700	35,300	74,900
Total, all grades:						
Albania	--	--	--	2,510	1,520	1,350
Canada	8	5	19	28	14	21
China	1,290	798	854	17,900	11,300	12,700
Croatia	2,000	1,280	1,160	10,400	6,730	5,540
Germany	1,820	1,290	4,540	9,530	6,650	24,600
India	62	39	31	11,200	7,010	6,880
Japan	--	--	--	281	110	520
Kazakstan	--	--	--	1,570	1,040	2,010
Macedonia	--	--	--	21	15	15
Russia	22,400	11,300	14,800	86,700	45,300	74,300
South Africa	16,700	8,670	7,940	94,400	46,500	43,100
Sweden	--	--	--	20	14	34
Switzerland	--	--	--	(5/)	(5/)	(5/)
Turkey	11,500	7,210	7,190	52,800	35,800	33,100
United Kingdom	--	--	--	95	62	57
Zimbabwe	200	136	223	37,500	23,800	24,100
Total	56,000	30,800	36,800	325,000	186,000	228,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

3/ Ferrochromium containing more than 4% carbon.

4/ Ferrochromium containing more than 3% but not more than 4% carbon.

5/ Revised to zero.

6/ Ferrochromium containing not more than 3% carbon.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN
SEPTEMBER 1997, BY GRADE AND BY COUNTRY 1/

Country	September		January-September	
	Gross weight (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Value 2/ (thousands)
Waste and scrap:				
Canada	--	--	1	\$6
Japan	--	--	(3/)	7
Mexico	--	--	(4/)	(4/)
Total	--	--	1	13
Other than waste and scrap:				
Belgium	--	--	18	115
Bulgaria	--	--	80	276
Canada	--	--	1	3
China	172	\$1,220	1,870	11,400
France	184	1,510	1,430	11,600
Germany	74	550	107	1,030
Greece	--	--	1	7
Hong Kong	--	--	51	318
Italy	(3/)	1	2	24
Japan	12	358	154	4,450
Mexico	--	--	20	88
Russia	50	388	2,630	16,400
Spain	--	--	(4/)	(4/)
Switzerland	(3/)	2	(3/)	32
Taiwan	3	16	8	51
Thailand	(3/)	3	(3/)	3
United Kingdom	231	1,830	1,260	10,400
Venezuela	--	--	(3/)	2
Total	726	5,880	7,630	56,300
Total, all grades:				
Belgium	--	--	18	115
Bulgaria	--	--	80	276
Canada	--	--	2	9
China	172	1,220	1,870	11,400
France	184	1,510	1,430	11,600
Germany	74	550	107	1,030
Greece	--	--	1	7
Hong Kong	--	--	51	318
Italy	(3/)	2	2	24
Japan	12	358	154	4,460
Mexico	--	--	20	88
Russia	50	388	2,630	16,400
Spain	--	--	(4/)	(4/)
Switzerland	(3/)	2	(3/)	32
Taiwan	3	16	8	51
Thailand	(3/)	3	(3/)	3
United Kingdom	231	1,830	1,260	10,400
Venezuela	--	--	(3/)	2
Total	726	5,880	7,630	56,300

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

3/ Less than 1/2 unit.

4/ Revised to zero.

Source: Bureau of the Census.